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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/493,258 | 01/28/2000 | Xin Li | 723-824 | 2008 |

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EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/493,258

Applicant(s)LI ET AL. **Examiner**

Motilewa A. Good-Johnson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in responsive to the following communications: Application, filed on 01/28/2000; IDS, paper #6, filed on 06/08/2000; IDS, paper #9, filed on 10/12/2001; Preliminary Amendment A, filed 01/28/2000; Amendment B, filed 12/16/2002.

This action is made final.

2. Claims 1-34 are pending in this application. Claims 1, 14, 27 and 32-34 are independent claims. Claims 1, 2, 4-15, 17, 19-23, 26, 28-34.

3. The present title of this application is "Incremental Interlace Interpolation for Texture Morphing" (as originally filed).

Drawings

4. The formal drawings were received on 12/16/2002. These drawings are acceptable.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones, U.S. Patent Number 6,407,743, "System and Method for Morphing Based on Multiple Weighted Parameters", class 345/582, 06/2002, filed 12/1998.

As per independent claim 1, a method for morphing and displaying a texture comprising: pre-decomposing at least some texels of a texture map into respective texel color components; Jones discloses attributes such as texture, color, position coordinates, surface normal, etc. for a reference appearance and further discloses each attribute may have sub-attributes, col. 4, lines 1-19; predetermining . . . at least one incremental morph parameter corresponding to said respective texel color components; Jones discloses components corresponding to the attributes of the color data and a displacement data set for each attribute of the other appearances, based upon the difference of the corresponding attributes, col. 4, lines 20-44; using said incremental morph parameter during real-time imaging to incrementally interpolate said texel color . . . ; Jones discloses using a mathematical equation to describe the difference of the attributes at each appearance, col. 4, lines 45-58; and displaying an image based at least in part on said intermediate morph texel . . . However, it is noted that Jones fails to disclose incrementally interpolating texel color components. Jones discloses a displacement data set and using a mathematical equation to describe the difference between each appearance to show morphing to a new position, col. 4, lines 45-51. It would have been obvious to one of ordinary skill in the art at the time of the invention to interpolate between each morphed appearance, because Jones discloses using a mathematical equation and interpolating is a form of a mathematical equation.

With respect to dependent claim 2, Jones discloses adding incremental parameter attributes to create a new appearance by a displacement data set, col. 8.

With respect to dependent claim 3, Jones discloses storing of the displacement data set as a mathematical equation to describe the difference between the attributes and how to morph to a new position, col. 4, lines 45-58.

With respect to dependent claims 4-6, Jones discloses calculating displacement data sets for the amount of change from one parameter or attribute to another in the appearance of an object, col. 4, lines 20-58. However, it is noted that Jones fails to disclose frame times and interpolating conditions for time periods. It would have been obvious to one of ordinary skill in the art to use frame times and interpolation, because Jones discloses storing attribute data for an appearance of an object, col. 4, lines 5-7, and frame time is an attribute of an object. Furthermore, Jones discloses a displacement data set and using a mathematical equation to describe the difference between each appearance to show morphing to a new position, col. 4, lines 45-51. It would have been obvious to one of ordinary skill in the art at the time of the invention to interpolate between each morphed appearance, because Jones discloses using a mathematical equation and interpolating is a form of a mathematical equation.

With respect to dependent claim 7, Jones discloses the combining function describes in terms of addition and subtraction, col. 10, lines 49-65.

With respect to dependent claim 8-11, Jones discloses a displacement data set and using a mathematical equation to describe the difference between each appearance to show morphing to a new position, col. 4, lines 45-51. It would have been

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obvious to one of ordinary skill in the art at the time of the invention to interpolate between each morphed appearance, because Jones discloses using a mathematical equation and interpolating is a form of a mathematical equation.

With respect to dependent claim 12, Jones discloses attribute data is prestored and may be retrieved into main memory, col. 11, lines 42-60.

With respect to dependent claim 13, Jones discloses red, green, blue and an alpha value, Figure 8.

As per independent claim 14 and dependent claims 15-26, they are rejected based upon similar rational as above independent claim 1 and dependent claims 2-13 respectively.

As per independent claim 27, it is rejected based upon similar rational as above independent claim 1.

With respect to dependent claims 28-31, Jones discloses calculating the difference in the attribute data between appearances, col. 4, lines 15-44. However, it is noted that Jones fails to disclose frame times and interpolating conditions for time periods. It would have been obvious to one of ordinary skill in the art to use frame times and interpolation, because Jones discloses storing attribute data for an appearance of an object, col. 4, lines 5-7, and frame time and frequency are object attributes.

As per independent claim 32 and 33, they are rejected based upon similar rational as above independent claim 1. Jones further discloses user interaction to generate a desired appearance, col. 3, lines 30-39.

As per independent claim 34, it is rejected based upon similar rational as above independent claim 1. Jones further discloses a main memory and secondary memory means and also other program means for loading instructions, col. 11, lines 42-67.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,995,110 Litwinowicz 345/848 11/1999

Method and system for the placement of texture on three-dimensional objects.

6,366,282 B1 Trika 345/423 04/2002 09/1998

Method and apparatus for morphing objects by subdividing and mapping portions of the objects.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments

9. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

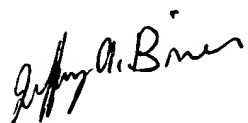
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

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Motilewa A. Good-Johnson
Examiner
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mgj
February 24, 2003


JEFFERY BRIER
PRIMARY EXAMINER